PCT09

RAW SEQUENCE LISTING DATE: 11/14/2001 PATENT APPLICATION: US/09/831,050 TIME: 14:10:22

Input Set : A:\seqlist_1581.0800000
Output Set: N:\CRF3\11142001\1831050.raw

```
6 <110> APPLICANT: SHONE, Clifford Charles
         SUTTON, John Mark
 7
 8
         HALLIS, Bassam
         SILMAN, Nigel
11 <120> TITLE OF INVENTION: Delivery of Superoxide Dismutase to Neuronal Cells
13 <130> FILE REFERENCE: 1581.0800000
15 <140> CURRENT APPLICATION NUMBER: 09/831,050
16 <141> CURRENT FILING DATE: 1999-11-05
18 <150> PRIOR APPLICATION NUMBER: PCT/GB99/03699
                                                             ENTERED
19 <151> PRIOR FILING DATE: 1998-11-05
21 <160> NUMBER OF SEQ ID NOS: 11
23 <170> SOFTWARE: PatentIn Ver. 2.1
25 <210> SEQ ID NO: 1
26 <211> LENGTH: 204
27 <212> TYPE: PRT
28 <213> ORGANISM: Bacillus caldotenax
30 <400> SEQUENCE: 1
   Met Pro Phe Glu Leu Pro Ala Leu Pro Tyr Pro Tyr Asp Ala Leu Glu
    Pro His Ile Asp Lys Glu Thr Met Asn Ile His His Thr Lys His His
34
35
                                     25
    Asn Thr Tyr Val Thr Asn Leu Asn Ala Ala Leu Glu Gly His Pro Asp
37
38
            35
                                 40
40
    Leu Gln Asn Lys Ser Leu Glu Glu Leu Leu Ser Asn Leu Glu Ala Leu
                             55
    Pro Glu Ser Ile Arg Thr Ala Val Arg Asn Asn Gly Gly His Ala
43
                        70
44
    Asn His Ser Leu Phe Trp Thr Ile Leu Ser Pro Asn Gly Gly Glu Glu
46
47
    Pro Thr Gly Glu Leu Ala Glu Ala Ile Asn Lys Lys Phe Gly Ser Phe
49
50
                                    105
    Thr Ala Phe Lys Asp Glu Phe Ser Lys Ala Ala Gly Arg Phe Gly
53
                               120
    Ser Gly Trp Ala Trp Leu Val Val Asn Asn Gly Glu Leu Glu Ile Thr
55
56
                           135
   Ser Thr Pro Asn Gln Asp Ser Pro Ile Met Glu Gly Lys Thr Pro Ile
59
                       150
                                            155
61
   Leu Gly Leu Asp Val Trp Glu His Ala Tyr Tyr Leu Lys Tyr Gln Asn
                                        170
   Arg Arg Pro Glu Tyr Ile Ala Ala Phe Trp Asn Ile Val Asn Trp Asp
65
                                    185
67
   Glu Val Ala Lys Arg Tyr Ser Glu Ala Lys Ala Lys
           195
                                200
72 <210> SEQ ID NO: 2
73 <211> LENGTH: 204
74 <212> TYPE: PRT
75 <213> ORGANISM: Bacillus stearothermophilus
```





DATE: 11/14/2001

TIME: 14:10:22

RAW SEQUENCE LISTING

PATENT APPLICATION: US/09/831,050

Input Set : A:\seqlist_1581.0800000
Output Set: N:\CRF3\11142001\1831050.raw

77 <400> SEQUENCE: 2 78 Met Pro Phe Glu Leu Pro Ala Leu Pro Tyr Pro Tyr Asp Ala Leu Glu 79 Pro His Ile Asp Lys Glu Thr Met Asn Ile His His Thr Lys His His 81 82 25 Asn Thr Tyr Val Thr Asn Leu Asn Ala Ala Leu Glu Gly His Pro Asp 85 40 Leu Gln Asn Lys Ser Leu Glu Glu Leu Leu Ser Asn Leu Glu Ala Leu 87 55 90 Pro Glu Ser Ile Arg Thr Ala Val Arg Asn Asn Gly Gly His Ala 70 75 91 Asn His Ser Leu Phe Trp Thr Ile Leu Ser Pro Asn Gly Gly Glu Glu 93 90 85 Pro Thr Gly Glu Leu Ala Asp Ala Ile Asn Lys Lys Phe Gly Ser Phe 96 105 97 Thr Ala Phe Lys Asp Glu Phe Ser Lys Ala Ala Ala Gly Arg Phe Gly 99 100 120 Ser Gly Trp Ala Trp Leu Val Val Asn Asn Gly Glu Leu Glu Ile Thr 102 103 135 Ser Thr Pro Asn Gln Asp Ser Pro Ile Met Glu Gly Lys Thr Pro Ile 150 155 106 145 108 Leu Gly Leu Asp Val Trp Glu His Ala Tyr Tyr Leu Lys Tyr Gln Asn 109 165 170 111 Arg Arg Pro Glu Tyr Ile Ala Ala Phe Trp Asn Val Val Asn Trp Asp 185 112 180 114 Glu Val Ala Lys Arg Tyr Ser Glu Ala Lys Ala Lys 200 119 <210> SEQ ID NO: 3 120 <211> LENGTH: 1067 121 <212> TYPE: PRT 122 <213> ORGANISM: Artificial Sequence 124 <220> FEATURE: 125 <223> OTHER INFORMATION: Description of Artificial Sequence:construct 127 <400> SEQUENCE: 3 128 Met Pro Phe Glu Leu Pro Ala Leu Pro Tyr Pro Tyr Asp Ala Leu Glu 129 131 Pro His Ile Asp Lys Glu Thr Met Asn Ile His His Thr Lys His His 132 25 134 Asn Thr Tyr Val Thr Asn Leu Asn Ala Ala Leu Glu Gly His Pro Asp 135 40 Leu Gln Asn Lys Ser Leu Glu Glu Leu Leu Ser Asn Leu Glu Ala Leu Pro Glu Ser Ile Arg Thr Ala Val Arg Asn Asn Gly Gly His Ala 140 141 Asn His Ser Leu Phe Trp Thr Ile Leu Ser Pro Asn Gly Gly Glu Glu 143 144 90 146 Pro Thr Gly Glu Leu Ala Asp Ala Ile Asn Lys Lys Phe Gly Ser Phe 147 105 Thr Ala Phe Lys Asp Glu Phe Ser Lys Ala Ala Ala Gly Arg Phe Gly





DATE: 11/14/2001

TIME: 14:10:22

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/831,050

Input Set : A:\seqlist_1581.0800000
Output Set: N:\CRF3\11142001\I831050.raw

																•
150			115					120					125		•	
152	Ser	Gly	Trp	Ala	Trp	Leu	Val	Val	Asn	Asn	Gly	Glu	Leu	Glu	Ile	Thr
153		130					135					140				
155	Ser	Thr	Pro	Asn	Gln	Asp	Ser	Pro	Ile	Met	Glu	Gly	Lys	Thr	Pro	Ile
156	145					150					155					160
158	Leu	Gly	Leu	Asp	Val	Trp	Glu	His	Ala	Tyr	Tyr	Leu	Lys	Tyr	Gln	Asn
159					165					170					175	
161	Arg	Arg	Pro	Glu	Tyr	Ile	Ala	Ala	Phe	\mathtt{Trp}	Asn	Val	Val	Asn	Trp	Asp
162				180					185					190		
164	Glu	Val	Ala	Lys	Arg	Tyr	Ser	Glu	Ala	Lys	Ala	Lys	Gln	Arg	Ser	Cys
165			195					200					205			
167	Gly	Leu	Val	Pro	Arg	Gly	Ser	Gly	Pro	Gly	Ser	Ala	Leu	Asn	Asp	Leu
168		210					215					220				
170	Cys	Ile	Lys	Val	Asn	Asn	Trp	Asp	Leu	Phe	Phe	Ser	Pro	Ser	Glu	Asp
171	225					230					235					240
173	Asn	Phe	Thr	Asn	Asp	Leu	Asn	Lys	Gly	Glu	Glu	Ile	Thr	Ser	Asp	Thr
174					245					250					255	
176	Asn	Ile	Glu	Ala	Ala	Glu	Glu	Asn	Ile	Ser	Leu	Asp	Leu	Ile	Gln	Gln
177				260					265					270		
179	Tyr	Tyr	Leu	Thr	Phe	Asn	Phe	Asp	Asn	Glu	Pro	Glu	Asn	Ile	Ser	Ile
180			275					280					285			
182	Glu	Asn	Leu	Ser	Ser	Asp	Ile	Ile	Gly	Gln	Leu	Glu	Leu	Met	Pro	Asn
183		290					295					300				
185	Ile	Glu	Arg	Phe	Pro	Asn	Gly	Lys	Lys	Tyr	Glu	Leu	Asp	Lys	Tyr	Thr
186	305					310					315					320
188	Met	Phe	His	Tyr	Leu	Arg	Ala	Gln	Glu	Phe	Glu	His	Gly	Lys	Ser	Arg
189					325					330					335	
191	Ile	Ala	Leu	Thr	Asn	Ser	Val	Asn	Glu	Ala	Leu	Leu	Asn	Pro	Ser	Arg
192				340					345					350		
194	Val	Tyr	Thr	Phe	Phe	Ser	Ser	Asp	Tyr	Val	Lys	Lys	Val	Asn	Lys	Ala
195			355					360					365			
197	Thr	Glu	Ala	Ala	Met	Phe	Leu	Gly	${\tt Trp}$	Val	Glu	Gln	Leu	Val	Tyr	Asp
198		370					375					380				
200	Phe	Thr	Asp	Glu	Thr	Ser	Glu	Val	Ser	Thr	Thr	Asp	Lys	Ile	Ala	Asp
201	385					390					395					400
203	Ile	Thr	Ile	Ile	Ile	Pro	Tyr	Ile	Gly	Pro	Ala	Leu	Asn	Ile		Asn
204					405					410					415	
206	Met	Leu	Tyr	Lys	Asp	Asp	Phe	Val		Ala	Leu	Ile	Phe	Ser	Gly	Ala
207				420					425					430		
209	Val	Ile	Leu	Leu	Glu	Phe	Ile		Glu	Ile	Ala	Ile	Pro	Val	Leu	Gly
210			435					440					445			
212	Thr	Phe	Ala	Leu	Val	Ser	Tyr	Ile	Ala	Asn	Lys		Leu	Thr	Val	Gln
213		450					455					460				
215	Thr	Ile	Asp	Asn	Ala	Leu	Ser	Lys	Arg	Asn	Glu	Lys	\mathtt{Trp}	Asp	Glu	
216	465					470					475					480
218	Tyr	Lys	Tyr	Ile		Thr	Asn	\mathtt{Trp}	Leu		Lys	Val	Asn	Thr		Ile
219					485					490		_			495	
221	Asp	Leu	Ile	_	Lys	Lys	Met	Lys		Ala	Leu	Glu	Asn	Gln	Ala	GLu
222				500					505					510		





DATE: 11/14/2001

TIME: 14:10:22

RAW SEQUENCE LISTING PATENT APPLICATION: US/09/831,050

Input Set : A:\seqlist_1581.0800000
Output Set: N:\CRF3\11142001\I831050.raw

224 225	Ala	Thr	Lys 515	Ala	Ile	Ile	Asn	Tyr 520	Gln	Tyr	Asn	Gln	Tyr 525	Thr	Glu	Glu
227 228	Glu	Lys 530	Asn	Asn	Ile		Phe 535	Asn	Ile	Asp	Asp	Leu 540	Ser	Ser	Lys	Leu
230 231	Asn 545	Glu	Ser	Ile	Asn	Lys 550	Ala	Met	Ile	Asn	Ile 555	Asn	Lys	Phe	Leu	Asn 560
233 234		Cys	Ser	Val	Ser 565		Leu	Met	Asn	Ser 570		Ile	Pro	Tyr	Gly 575	Val
236 237	Lys	Arg	Leu	Glu 580		Phe	Asp	Ala	Ser 585		Lys	Asp	Ala	Leu 590		Lys
239	Tyr	Ile	Tyr 595	Asp	Asn	Arg	Gly	Thr 600		Ile	Gly	Gln	Val 605		Arg	Leu
240 242	Lys	-		Val	Asn	Asn			Ser	Thr	Asp			Phe	Gln	Leu
243 245		610 Lys	Tyr	Val	Asp		615 Gln	Arg	Leu	Leu		620 Thr	Phe	Thr	Glu	
246	625	.		-1 -	-1 -	630	mla -a	0	T1.	т	635	т	7 mm	П	C1	640
248 249	•	_		Ile	645					650					655	
251 252				Ile 660					665					670		
254 255	Ser	Lys	Val 675	Asn	Phe	Asp	Pro	Ile 680	Asp	Lys	Asn	Gln	Ile 685	Gln	Leu	Phe
257 258	Asn	Leu 690	Glu	Ser	Ser	Lys	Ile 695	Glu	Val	Ile	Leu	Lys 700	Asn	Ala	Ile	Val
260 261	Tyr 705	Asn	Ser	Met	Tyr	Glu 710	Asn	Phe	Ser	Thr	Ser 715	Phe	Trp	Ile	Arg	Ile 720
263 264		Lys	Tyr	Phe	Asn 725		Ile	Ser	Leu	Asn 730		Glu	Tyr	Thr	Ile 735	
266 267	Asn	Cys	Met	Glu 740	Asn	Asn	Ser	Gly	Trp 745		Val	Ser	Leu	Asn 750		Gly
269 270	Glu	Ile	Ile 755	Trp		Leu	Gln	Asp 760		Gln	Glu	Ile	Lys 765		Arg	Val
272 273	Val	Phe		Tyr	Ser	Gln	Met 775		Asn	Ile	Ser	Asp 780		Ile	Asn	Arg
275 276	Trp 785		Phe	Val	Thr	Ile 790		Asn	Asn	Arg	Leu 795			Ser	Lys	Ile 800
278 279		Ile	Asn	Gly	Arg 805		Ile	Asp	Gln	Lys 810		Ile			Leu 815	
281 282	Asn	Ile	His	Ala 820		Asn	Asn	Ile	Met 825		Lys	Leu	Asp	Gly 830		Arg
284 285	Asp	Thr	His 835	Arg	Tyr	Ile	Trp	Ile 840		Tyr	Phe	Asn	Leu 845		Asp	Lys
287	Glu	Leu 850		Glu	Lys	Glu	Ile 855	_	Asp	Leu	Tyr	Asp 860		Gln	Ser	Asn
288 290	Ser		Tle	Leu	Lve	Aso		Tro	Glv	Asp	Tvr		Gln	Tvr	Asp	Lvs
291	865	Ory	110	LCu.	-10	870			J#1		875			-1-		880
293 294		Tyr	Tyr	Met	Leu 885		Leu	Tyr	Asp	Pro 890		Lys	Tyr	Val	Asp 895	
296	Asn	Asn	Val	Gly		Arg	Gly	Tyr	Met		Leu	Lys	Gly	Pro		Gly





RAW SEQUENCE LISTING DATE: 11/14/2001 PATENT APPLICATION: US/09/831,050 TIME: 14:10:22

Input Set : A:\seqlist_1581.0800000
Output Set: N:\CRF3\11142001\1831050.raw

297				900					905					910		
299	Ser	Val	Met		Thr	Asn	Ile	Tyr	Leu	Asn	Ser	Ser	Leu	Tyr	Arg	Gly
300			915					920					925	_	_	_
302	Thr	Lys	Phe	Ile	Ile	Lys	Lys	Tyr	Ala	Ser	Gly	Asn	Lys	Asp	Asn	Ile
303		930				-	935	_			_	940	_			
305	Val	Arg	Asn	Asn	Asp	Arg	Val	Tyr	Ile	Asn	Val	Val	Val	Lys	Asn	Lys
306	945					950					955					960
308	Glu	Tyr	Arg	Leu	Ala	Thr	Asn	Ala	Ser	Gln	Ala	Gly	Val	Glu	Lys	Ile
309					965					970					975	
311	Leu	Ser	Ala	Leu	Glu	Ile	Pro	Asp	Val	Gly	Asn	Leu	Ser	Gln	Val	Val ·
312				980					985					990		
314	Val	Met	Lys	Ser	Lys	Asn	Asp	Gln	Gly	Ile	Thr	Asn	Lys	Cys	Lys	Met
315			995				-	1000				:	1005			
317	Asn	Leu	Gln	Asp	Asn	Asn	Gly	Asn	Asp	Ile	Gly	Phe	Ile	Gly	Phe	His
318	-	1010				-	1015				-	1020				,
320	Gln	Phe	Asn	Asn	Ile	Ala	Lys	Leu	Val			Asn	Trp	Tyr	Asn	Arg
321	1025					1030					1035					1040
323	Gln	Ile	Glu	_		Ser	Arg	Thr		_	Cys	Ser	\mathtt{Trp}			Ile
324					L045		_			1050					1055	
326	Pro	Val	_	_	Gly	\mathtt{Trp}	Gly		_	Pro	Leu					
327				L060				-	1065							
	<210															
	<2112				/ 0											
	<212															
	<213				Artı	ticia	al Se	equer	ıce							
336	<220	> FE	ATURI	ዸ:						of 1	\rtif	Ficia	al 94	ימוופו	nce · (construct N
336 337	<220 <223	> FEA	ATURI HER I	E: E NF OI	TAMS					of A	Artii	ficia	al Se	equei	nce:	construct of
336 337 339	<2203 <2233 <4003	> FEA > OTH > SEQ	ATURI IER I QUENC	E: ENFOI CE: 4	RMAT I	ION:	Desc	cript	ion							U
336 337 339 340	<2203 <2233 <4003 Met	> FEA > OTH > SEQ	ATURI IER I QUENC	E: ENFOI CE: 4	RMAT I		Desc	cript	ion	Tyr						U
336 337 339 340 341	<2203 <2233 <4003 Met 1	> FEA > OTH > SE(Pro	ATURI IER I QUENC Phe	E: INFOI CE: 4 Glu	RMATI l Leu 5	ION: Pro	Desc Ala	cript Leu	ion Pro	Tyr 10	Pro	Tyr	Asp	Ala	Leu 15	Glu
336 337 339 340 341 343	<2203 <2233 <4003 Met 1	> FEA > OTH > SE(Pro	ATURI IER I QUENC Phe	E: INFOI CE: 4 Glu	RMATI l Leu 5	ION:	Desc Ala	cript Leu	ion Pro	Tyr 10	Pro	Tyr	Asp	Ala	Leu 15	Glu
336 337 339 340 341	<2200 <2230 <4000 Met 1 Pro	> FEA > OTH > SE(Pro His.	ATURI HER D QUENC Phe Ile	E: INFOI CE: 4 Glu Asp 20	RMATI Leu 5 Lys	ION: Pro Glu	Desc Ala Thr	cript Leu Met	Pro Asn 25	Tyr 10 Ile	Pro His	Tyr His	Asp Thr	Ala Lys 30	Leu 15 His	Glu His
336 337 339 340 341 343 344	<2200 <2230 <4000 Met 1 Pro	> FEA > OTH > SE(Pro His.	ATURI HER D QUENC Phe Ile	E: INFOI CE: 4 Glu Asp 20	RMATI Leu 5 Lys	ION: Pro	Desc Ala Thr	cript Leu Met	Pro Asn 25	Tyr 10 Ile	Pro His	Tyr His	Asp Thr	Ala Lys 30	Leu 15 His	Glu His
336 337 339 340 341 343 344 346	<2200 <2230 <4000 Met 1 Pro	FEA OTH SEQ Pro His.	ATURE HER D QUENC Phe Ile Tyr 35	E: INFOI CE: 4 Glu Asp 20 Val	RMAT: l Leu 5 Lys Thr	ION: Pro Glu	Desc Ala Thr Leu	Leu Met Asn 40	Pro Asn 25 Ala	Tyr 10 Ile Ala	Pro His Leu	Tyr His Glu	Asp Thr Gly 45	Ala Lys 30 His	Leu 15 His Pro	Glu His Asp
336 337 339 340 341 343 344 346 347	<2200 <2230 <4000 Met 1 Pro	FEA OTH SEQ Pro His.	ATURE HER D QUENC Phe Ile Tyr 35	E: INFOI CE: 4 Glu Asp 20 Val	RMAT: l Leu 5 Lys Thr	Pro Glu Asn	Desc Ala Thr Leu	Leu Met Asn 40	Pro Asn 25 Ala	Tyr 10 Ile Ala	Pro His Leu	Tyr His Glu	Asp Thr Gly 45	Ala Lys 30 His	Leu 15 His Pro	Glu His Asp
336 337 339 340 341 343 344 346 347 349	<2203 <2233 <4003 Met 1 Pro Asn Leu	FEA OTH SEQ Pro His. Thr	ATURE HER J QUENC Phe Ile Tyr 35 Asn	E: INFOR CE: 4 Glu Asp 20 Val	RMAT: Leu 5 Lys Thr	Pro Glu Asn	Desc Ala Thr Leu Glu 55	Leu Met Asn 40 Glu	Pro Asn 25 Ala Leu	Tyr 10 Ile Ala Leu	Pro His Leu Ser	Tyr His Glu Asn 60	Asp Thr Gly 45 Leu	Ala Lys 30 His Glu	Leu 15 His Pro	Glu His Asp Leu
336 337 339 340 341 343 344 346 347 349 350	<2203 <2233 <4003 Met 1 Pro Asn Leu	FEA OTH SEQ Pro His. Thr	ATURE HER J QUENC Phe Ile Tyr 35 Asn	E: INFOR CE: 4 Glu Asp 20 Val	RMAT: Leu 5 Lys Thr	Pro Glu Asn Leu	Desc Ala Thr Leu Glu 55	Leu Met Asn 40 Glu	Pro Asn 25 Ala Leu	Tyr 10 Ile Ala Leu	Pro His Leu Ser	Tyr His Glu Asn 60	Asp Thr Gly 45 Leu	Ala Lys 30 His Glu	Leu 15 His Pro	Glu His Asp Leu
336 337 339 340 341 343 344 346 347 349 350 352	<2203 <2233 <4003 Met 1 Pro Asn Leu Pro 65	FEA OTH SEC Pro His. Thr Gln 50 Glu	ATURE HER D QUENC Phe Ile Tyr 35 Asn Ser	E: INFOR CE: 4 Glu Asp 20 Val Lys Ile	RMAT: Leu 5 Lys Thr Ser	Pro Glu Asn Leu Thr	Desc Ala Thr Leu Glu 55 Ala	Leu Met Asn 40 Glu Val	Pro Asn 25 Ala Leu Arg	Tyr 10 11e Ala Leu Asn	Pro His Leu Ser Asn 75	Tyr His Glu Asn 60 Gly	Asp Thr Gly 45 Leu Gly	Ala Lys 30 His Glu Gly	Leu 15 His Pro Ala His	Glu His Asp Leu Ala 80
336 337 339 340 341 343 344 346 347 350 352 353	<2203 <2233 <4003 Met 1 Pro Asn Leu Pro 65	FEA OTH SEQ Pro His. Thr Gln 50 Glu	ATURE HER D QUENC Phe Ile Tyr 35 Asn Ser	E: INFOI CE: 4 Glu Asp 20 Val Lys Ile Leu	RMAT: Leu 5 Lys Thr Ser Arg	Pro Glu Asn Leu Thr	Desc Ala Thr Leu Glu 55 Ala	Leu Met Asn 40 Glu Val	Pro Asn 25 Ala Leu Arg	Tyr 10 11e Ala Leu Asn Ser	Pro His Leu Ser Asn 75 Pro	Tyr His Glu Asn 60 Gly Asn	Asp Thr Gly 45 Leu Gly	Ala Lys 30 His Glu Gly	Leu 15 His Pro Ala His Gly	Glu His Asp Leu Ala 80 Glu
336 337 339 340 341 343 344 346 347 350 352 353 355	<2200 <2230 <4000 Met 1 Pro Asn Leu Pro 65 Asn	FEA OTH SEQ Pro His. Thr Gln Glu	ATURE HER D QUENC Phe Ile Tyr 35 Asn Ser Ser	E: INFOI CE: 4 Glu Asp 20 Val Lys Ile Leu	RMAT: Leu 5 Lys Thr Ser Arg	Pro Glu Asn Leu Thr 70 Trp	Desc Ala Thr Leu Glu 55 Ala	Leu Met Asn 40 Glu Val	Pro Asn 25 Ala Leu Arg Leu	Tyr 10 11e Ala Leu Asn Ser 90	Pro His Leu Ser Asn 75 Pro	Tyr His Glu Asn 60 Gly Asn	Asp Thr Gly 45 Leu Gly	Ala Lys 30 His Glu Gly	Leu 15 His Pro Ala His Gly 95	Glu His Asp Leu Ala 80 Glu
336 337 339 340 341 343 344 346 347 350 352 353 355 356 358 359	<2200 <2233 <4000 Met 1 Pro Asn Leu Pro 65 Asn	FEA OTH SEQ Pro His. Thr Gln Glu His	ATURE HER DOUBLE Phe Ile Tyr 35 Asn Ser Ser Gly	E: INFOI CE: 4 Glu Asp 20 Val Lys Ile Leu Glu 100	RMAT: Leu 5 Lys Thr Ser Arg Phe 85 Leu	Pro Glu Asn Leu Thr 70 Trp	Desc Ala Thr Leu Glu 55 Ala Thr	Leu Met Asn 40 Glu Val Ile Ala	Pro Asn 25 Ala Leu Arg Leu Ile 105	Tyr 10 11e Ala Leu Asn Ser 90 Asn	Pro His Leu Ser Asn 75 Pro	Tyr His Glu Asn 60 Gly Asn	Asp Thr Gly 45 Leu Gly Gly	Ala Lys 30 His Glu Gly Gly Gly	Leu 15 His Pro Ala His Gly 95 Ser	Glu His Asp Leu Ala 80 Glu Phe
336 337 339 340 341 343 344 346 347 350 352 353 355 356 358 359 361	<2200 <2233 <4000 Met 1 Pro Asn Leu Pro 65 Asn	FEA OTH SEQ Pro His. Thr Gln Glu His	ATURE HER DOUBLE Phe Ile Tyr 35 Asn Ser Ser Gly	E: INFOI CE: 4 Glu Asp 20 Val Lys Ile Leu Glu 100	RMAT: Leu 5 Lys Thr Ser Arg Phe 85 Leu	Pro Glu Asn Leu Thr 70 Trp	Desc Ala Thr Leu Glu 55 Ala Thr	Leu Met Asn 40 Glu Val Ile Ala Ser	Pro Asn 25 Ala Leu Arg Leu Ile 105	Tyr 10 11e Ala Leu Asn Ser 90 Asn	Pro His Leu Ser Asn 75 Pro	Tyr His Glu Asn 60 Gly Asn	Asp Thr Gly 45 Leu Gly Gly Phe	Ala Lys 30 His Glu Gly Gly Gly	Leu 15 His Pro Ala His Gly 95 Ser	Glu His Asp Leu Ala 80 Glu Phe
336 337 339 340 341 343 344 346 347 350 352 353 355 356 358 359 361 362	<2200 <2233 <4000 Met 1 Pro Asn Leu Pro 65 Asn Pro Thr	FEADOR FE	ATURE HER J QUENC Phe Ile Tyr 35 Asn Ser Ser Gly Phe 115	E: INFOI CE: 4 Glu Asp 20 Val Lys Ile Leu Glu 100 Lys	Leu 5 Lys Thr Ser Arg Phe 85 Leu	Pro Glu Asn Leu Thr 70 Trp Ala Glu	Desc Ala Thr Leu Glu 55 Ala Thr Asp	Leu Met Asn 40 Glu Val Ile Ala Ser	Pro Asn 25 Ala Leu Arg Leu Ile 105 Lys	Tyr 10 11e Ala Leu Asn Ser 90 Asn	Pro His Leu Ser Asn 75 Pro Lys Ala	Tyr His Glu Asn 60 Gly Asn Lys Ala	Asp Thr Gly 45 Leu Gly Gly Phe Gly 125	Ala Lys 30 His Glu Gly Gly 110 Arg	Leu 15 His Pro Ala His Gly 95 Ser	Glu His Asp Leu Ala 80 Glu Phe Gly
336 337 339 340 341 343 344 346 347 350 352 353 355 356 358 361 362 364	<2200 <2233 <4000 Met 1 Pro Asn Leu Pro 65 Asn Pro Thr	FEA OTH SEC Pro His. Thr Gln 50 Glu His Thr Ala	ATURE HER J QUENC Phe Ile Tyr 35 Asn Ser Ser Gly Phe 115	E: INFOI CE: 4 Glu Asp 20 Val Lys Ile Leu Glu 100 Lys	Leu 5 Lys Thr Ser Arg Phe 85 Leu	Pro Glu Asn Leu Thr 70 Trp	Desc Ala Thr Leu 55 Ala Thr Asp Phe	Leu Met Asn 40 Glu Val Ile Ala Ser	Pro Asn 25 Ala Leu Arg Leu Ile 105 Lys	Tyr 10 11e Ala Leu Asn Ser 90 Asn	Pro His Leu Ser Asn 75 Pro Lys Ala	Tyr His Glu Asn 60 Gly Asn Lys Ala Glu	Asp Thr Gly 45 Leu Gly Gly Phe Gly 125	Ala Lys 30 His Glu Gly Gly 110 Arg	Leu 15 His Pro Ala His Gly 95 Ser	Glu His Asp Leu Ala 80 Glu Phe Gly
336 337 339 340 341 343 344 346 347 350 352 353 355 356 358 361 362 364 365	<2200 <2233 <4000 Met 1 Pro Asn Leu Pro 65 Asn Pro Thr Ser	FEADOR FE	ATURE HER DUENCE Phe Ile Tyr 35 Asn Ser Gly Phe 115 Trp	E: INFOR CE: 4 Glu Asp 20 Val Lys Ile Leu Glu 100 Lys Ala	Leu Lys Thr Ser Arg Phe 85 Leu Asp	Pro Glu Asn Leu Thr 70 Trp Ala Glu Leu	Desc Ala Thr Leu 55 Ala Thr Asp Phe Val	Leu Met Asn 40 Glu Val Ile Ala Ser 120 Val	Pro Asn 25 Ala Leu Arg Leu Ile 105 Lys Asn	Tyr 10 11e Ala Leu Asn Ser 90 Asn Ala Asn	Pro His Leu Ser Asn 75 Pro Lys Ala Gly	Tyr His Glu Asn 60 Gly Asn Lys Ala Glu 140	Asp Thr Gly 45 Leu Gly Gly Phe Gly 125 Leu	Ala Lys 30 His Glu Gly Gly Gly Arg Glu	Leu 15 His Pro Ala His Gly 95 Ser Phe Ile	Glu His Asp Leu Ala 80 Glu Phe Gly Thr
336 337 339 340 341 343 344 346 347 350 352 353 355 356 358 361 362 364 365 367	<2200 <2233 <4000 Met 1 Pro Asn Leu Pro 65 Asn Pro Thr Ser Ser	FEADOR FE	ATURE HER DUENCE Phe Ile Tyr 35 Asn Ser Gly Phe 115 Trp	E: INFOR CE: 4 Glu Asp 20 Val Lys Ile Leu Glu 100 Lys Ala	Leu Lys Thr Ser Arg Phe 85 Leu Asp	Pro Glu Asn Leu Thr 70 Trp Ala Glu Leu Asp	Desc Ala Thr Leu 55 Ala Thr Asp Phe Val	Leu Met Asn 40 Glu Val Ile Ala Ser 120 Val	Pro Asn 25 Ala Leu Arg Leu Ile 105 Lys Asn	Tyr 10 11e Ala Leu Asn Ser 90 Asn Ala Asn	Pro His Leu Ser Asn 75 Pro Lys Ala Gly Glu	Tyr His Glu Asn 60 Gly Asn Lys Ala Glu 140	Asp Thr Gly 45 Leu Gly Gly Phe Gly 125 Leu	Ala Lys 30 His Glu Gly Gly Gly Arg Glu	Leu 15 His Pro Ala His Gly 95 Ser Phe Ile	Glu His Asp Leu Ala 80 Glu Phe Gly Thr
336 337 339 340 341 343 344 346 347 350 352 353 355 356 358 361 362 364 365	<2200 <2233 <4000 Met 1 Pro Asn Leu Pro 65 Asn Pro Thr Ser Ser 145	FEADOR FE	ATURE HER DOWN Phe Ile Tyr 35 Asn Ser Gly Phe 115 Trp Pro	E: INFOI CE: 4 Glu Asp 20 Val Lys Ile Leu Glu 100 Lys Ala Asn	Leu 5 Lys Thr Ser Arg Phe 85 Leu Asp Trp Gln	Pro Glu Asn Leu Thr 70 Trp Ala Glu Leu	Desc Ala Thr Leu 55 Ala Thr Asp Phe Val 135 Ser	Leu Met Asn 40 Glu Val Ile Ala Ser 120 Val Pro	Pro Asn 25 Ala Leu Arg Leu Ile 105 Lys Asn Ile	Tyr 10 11e Ala Leu Asn Ser 90 Asn Ala Asn	Pro His Leu Ser Asn 75 Pro Lys Ala Gly Glu 155	Tyr His Glu Asn 60 Gly Asn Lys Ala Glu 140 Gly	Asp Thr Gly 45 Leu Gly Gly Phe Gly 125 Leu	Ala Lys 30 His Glu Gly Gly Gly 110 Arg Glu Thr	Leu 15 His Pro Ala His Gly 95 Ser Phe Ile	Glu His Asp Leu Ala 80 Glu Phe Gly Thr Ile 160





VERIFICATION SUMMARY

PATENT APPLICATION: US/09/831,050

DATE: 11/14/2001 TIME: 14:10:23

Input Set : A:\seqlist_1581.0800000
Output Set: N:\CRF3\11142001\I831050.raw